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Effects of Perceived Cost, Service Quality, and Customer Satisfaction on Health Insurance Service Continuance

ABSTRACT This paper aims to contribute to the universal discourse on financial services continuance behavior by examining the impact of *service cost* on customers' service-quality perception and service-continuance intention. It presents the results of an empirical study that has explored the impacts of service cost, service quality, and customer satisfaction on health insurance customers' behavioral intention toward continuing or discontinuing with their service providers. Very few studies had examined the impact of *service cost* on *service-quality perception*. Our study attempts to fill that gap. A sample of 820 customers was surveyed, and 624 usable responses were analyzed with ANOVA, Standard Multiple Regression, and Logistic Regression. Our findings indicate that, although highly satisfied health insurance customers will most likely retain their current service providers, customer dissatisfaction does not necessarily lead to discontinuance. Our results also provide some operational implications for health insurance managers, with strategies for reducing attrition and improving customer retention.

Keywords: Service cost; customer expectations; service quality; customer satisfaction; behavioral intention; health insurance

INTRODUCTION

Meeting and exceeding customers' needs and expectations, and providing the best satisfaction experience in various market sectors, is a necessity challenging companies globally today (Kotler *et al*, 2012; Christiansen *et al*, 2016; Minkara, 2016). This is generally true in the financial services domain, where money-exchange for intangible products holds sway; but especially so in insurance services, where there is new consciousness today in proactively pursuing service-quality growth and best customer experiences aimed at achieving higher customer retention (Koornneef *et al*, 2012; Al-Amri *et al*, 2012; Oxford Business Group, 2015).

Generally, customers' loyalty and intention to continue with their current service providers is influenced by the *level of satisfaction* they experience from services received (Butt and De Run, 2010; Kumar and Srivastava, 2013). It is, therefore, important to understand what factors drive *customer satisfaction* in various service paradigms. According to Tse and Wilton (1988, p. 204), *satisfaction* is the difference between a customer's prior expectation of quality and the actual perceived quality. This gap also determines a customer's *level of satisfaction* or *dissatisfaction*, which in turn determines his or her *behavioral intention* toward continuing with the service or switching (Zhang *et al*, 2011; Koenig-Lewis and Palmer, 2014). In line with this logic, both *expectations of service quality* and *perceived service quality* have been identified as the key antecedents to *customer satisfaction* (Hussain *et al*, 2014).

Another construct, *perceived service cost*, has also been identified in the literature as an important antecedent to *customer satisfaction* (Spathis *et al*, 2004). However, despite the fact that González *et al* (2007), Chen (2008), Carlson and O'Cass (2010), and Bala (2011) have all highlighted the need to further examine the roles of *perceived service cost*, *customer expectation*, and *perceived service quality* in jointly determining *customer satisfaction* across

service contexts, the role of *perceived service cost* in the prior determination of *perceived service quality* has been largely overlooked in the existing studies (Dimitriadis, 2011). In this paper, we posit that *service cost* is a vital consideration in customers' estimation of the value received from services, because their perception of *service quality* is a direct result of their comparison of *costs* and *benefits* (Dimitriadis, 2011; Kotler and Keller, 2012). Surprisingly, very few studies have examined the impact of *perceived service cost* on consumers' *service quality perception* and, consequently, on their *level of satisfaction* (Tam, 2004; Spathis *et al*, 2004; Dimitriadis, 2011). We have included the *perceived cost* construct in our study because we believe that through various interventions, service providers can control their *service costs* in order to influence their customers' overall *satisfaction*.

Research objectives

Two major objectives were isolated in our study. First was to examine the antecedents of *customer satisfaction* in the health insurance service context, including *customers' prior expectations* of their insurance *service quality*; their *perception of the total costs* of the services; and their *perception of the quality* of the services received. We examined the relationships between these constructs in order to better understand how they jointly influence *customer satisfaction*, as suggested in the literature (see Spathis *et al*, 2004; González *et al*, 2007; Chen, 2008; Carlson and O'Cass, 2010; Bala, 2011; Dimitriadis, 2011).

Our second objective was then to examine the influence of the customers' *satisfaction* on their *behavioral intention* toward *continuing* or *discontinuing* with their current insurance providers. The unique contribution of this study relates to the influence of *perceived service cost* on customers' *perception of service quality*, *level of satisfaction*, and *behavioral intention* to continue or discontinue the service usage. We hope that our findings will add current knowledge to the requisite service-quality research in the health insurance paradigm, as advocated by Al-Amri *et al* (2012).

THEORETICAL FRAMEWORK

Expectations of service quality

Expectations reflect consumers' wants or desires - what they feel a service provider should be able to offer them in order to satisfy their service needs (Cheng-Lim and Tang, 2000). *Expectations* result from sources such as consumers' past experiences with specific services; friends' and associates' advice; marketers' information and promises; and competitors' information and promises (Zeithaml *et al*, 2013; Kotler and Armstrong, 2014). According to these scholars, if a marketer raises *customer expectation* too high, the buyer is likely to be disappointed after interaction with the service. In contrast, if the *expectation* is set too low, it won't attract enough buyers, although it will likely satisfy those who do buy.

In a study of the nature and determinants of consumers' expectations of service, Zeithaml *et al*, (1993) configured a model that specifies three different types of *service expectations*, including *desired service*, *adequate service*, and *predicted service*. Lee *et al* (2000) also conceptualised *expectation* as a normative construct that predicts *customer service quality perception*. Adopting the assimilation theory of Oliver and DeSarbo (1988), the scholars argue that increasing a customer's *predictive expectation* leads to higher *service-quality perception*. They therefore advise that service marketers should stimulate their customers' predictive expectations in order to increase the customers' perceptions of their overall service quality.

Chéron and Nornart (2010, p. 31) are of the opinion that “expectations are important to determine consumers' *satisfaction* levels, and thus their post-consumption evaluations of service quality. Consequently, to succeed in the service business, it is important for service providers to determine the *service expectations* of their different consumer groups and to attempt to meet them.” Additionally, Negi (2009) highlights the importance of measuring

consumers' *expectations of service* and comparing them with their *perceptions* of the quality of services they have received, and asserts that "without adequate information on both the *expected quality* and the *perceived quality*, feedback from customer surveys can be highly misleading on policy and operational perspectives" (p. 702). In general, researchers agree that the evaluation of service quality is influenced by *prior expectations*, and that in order to assess the quality of any service offering, customers' *expectations* must first be measured (Yelkur and Chakrabarty, 2006).

Perceived service quality

Quality is a multi-dimensional phenomenon, and it is therefore unfeasible for a firm to attain *service quality* without delineating the essential aspects of its services as *quality* dimensions (Ueltschy *et al*, 2007; Mosahab *et al*, 2010). For instance, the quality of the coffee, pastries, store ambience, store layout, sales assistants' service attitudes, seating convenience, internet access, proximity to customers' residences, and adequate parking space in a Starbucks outlet all jointly constitute the Starbucks *service quality* (Fitzsimmons and Fitzsimmons, 2013). A series of studies by Parasuraman *et al* (1985; 1988; 1991a; 1991b) resulted in the development of the *service quality model* known as "SERVQUAL." Initially based on 10 dimensions, the model was later reduced to 5 dimensions, comprising *tangibility*, *reliability*, *responsiveness*, *assurance*, and *empathy*.

The SERVQUAL model examines the gap between two customer assumptions of *service quality*. One is customers' anticipation or wish of what the *service quality* should be - known as "*customer expectation*." The other is customer's interpretation of the *actual quality* of the service performance - known as "*customer perception*" (Zeithaml *et al*, 1990; Zeithaml *et al*, 2013). The gap between these two concepts yields the third concept, "*perceived service quality*." It is "*perceived*" because it is the *actual quality* as experienced and evaluated by the customers rather than as claimed by the firm (Padma *et al*, 2009). In a study that examined

brand equity in the healthcare service context, Chahal and Bala (2012, p. 345) conceptualized *perceived service quality* as “the consumers’ overall perception of the superiority of a particular service in comparison to other available service-products.”

The model has also shown effectiveness in measuring customers’ true *perceptions of service quality* in different industrial paradigms, including aviation, hotel, restaurant, retail store, banking, insurance, and tourism industries (see Brysland and Curry, 2001; Lam, 2002; Zhou *et al*, 2002; Tsoukatos and Rand, 2006; Kheng *et al*, 2010; Zeithaml *et al*, 2013; Punnakitakashem, 2013; and Szalita, 2015). Even the limited application of the SERVQUAL model in healthcare research has enabled health organizations to improve *service quality* (Van Der Wal *et al*, 2002). In two studies that examined the effectiveness of *service quality* and *customer satisfaction*, Curry and Sinclair (2002) and Boshoff and Gray (2004) respectively report that the SERVQUAL model was also successful in determining *customer loyalty*. Comparing *service quality perceptions* with *trust*, Iyer and Muncy (2004) also employed the SERVQUAL dimensions to analyze the impact of *service quality* among hospital patients clustered on the basis of their *trust levels*.

Siddiqui and Sharma (2010) and Bala *et al* (2011) studied *service quality* in the life insurance context using SERVQUAL, and their results showed that improving the SERVQUAL dimensions had a significant impact on overall *service quality perception*. In addition, Lee *et al* (2000) employed the SERVQUAL model to prove that *perceived service quality* was a necessary antecedent of *satisfaction*. However, the SERVQUAL model has also faced steep criticisms, mainly for its doubtfulness in the use of gap scores, the measurement of expectations, the predictive power of the instrument, and its reliability as a whole (Tsoukatos *et al*, 2004). Nevertheless, several *service quality* researchers have successfully employed the SERVQUAL to investigate *service quality* in several contexts (Zeithaml *et al*, 2013). Some have also employed the e-SERVQUAL model to measure *service quality* in the

online platform (see Carlson and O'Cass, 2010; Gounaris *et al*, 2010; and Rahman *et al*, 2014).

Perceived service cost

Value perception sets the price-ceiling, while *cost* sets the price-floor for what a company can charge for its goods or services (Kotler and Armstrong, 2014, p. 295). In setting prices, the primary objective of most companies is to recover *input-costs* and then make a profit. As a result, customers have to pay the *set-price* in recompense for the *total benefits* they receive from the goods or services bought, which also allows the seller to recover *input-costs* and make a profit (Kramer, 2011). For services, customers must experience good *quality* in the service received in order to perceive it as *good value for money*. The *value* so perceived has been conceptualized as the difference between *total benefits* and *total costs* of service (Kotler *et al*, 2012). *Total benefit* has also been defined by Lee and Cunningham (2001) to include *economic benefit* (the lower-price paid compared to alternatives); *functional benefit* (the good service performance that satisfies the desired need); and *psychological benefit* (the good feeling of satisfaction after service experience).

Drawing from Bolton and Drew, 1991; Liljander and Strandvik, 1992; Berry *et al*, 2002; McGuire *et al*, 2010; and Sarkar *et al*, 2011, we have isolated four dimensions of *total cost* to including: *economic* or *monetary cost* (the price paid for acquiring, using, maintaining, and disposing of goods or services); *time cost* (the minutes, hours, days, or months it took to search, evaluate, and acquire it); *human energy cost* (the human effort involved in acquiring and using it); and *psychological cost* (the customer's feeling of risk or uncertainty due to the probability that the service outcome may be less than expected, and may lead to dissatisfaction). Other scholars have further expanded *economic cost* to include the cost of searching and evaluating alternatives before purchase decision (Kotler *et al*, 2012; Akin and Platt, 2013). The higher the perceived *total benefits* are over the perceived *total*

costs, the higher the customers' *perception of value* will be for the goods or services used. As a result, it is necessary to understand the importance of *cost perception* and customers' responsiveness to *service cost* as "relevant factors affecting their reactions" to service usage (Dominique-Ferreira *et al*, 2016, p. 328).

Majority of the existing studies in this area have tended to ignore the impact of *perceived service cost* on consumers' *service-value perception* and, consequently, on their *satisfaction* and *usage-continuance behavior* (Tam, 2004). The studies by Hasin *et al* (2001), Spathis *et al* (2004), and Dimitriadis (2011) happen to be the only three studies that have investigated *service cost* as a main factor directly impacting customers' *service-quality perception*. However, all the three studies seem to have conceived *cost* merely as the *monetary price* paid by customers for the services received. In this study, we have conceptualized *perceived service cost* not just as monetary service fees, but as the *total cost* of acquiring, using, and maintaining an insurance policy, including financial, time, human-energy and emotional *costs*, in line with Hasin *et al* (2001), Spathis *et al* (2004), and Kotler and Armstrong (2014).

Based on the foregoing, it is our strong view that, in order to stimulate *service adoption* and *usage continuance*, service firms need to ensure that the *total costs* of their offerings are clearly perceivable not only as reasonable and affordable *prices*, but also as *time costs*, *human energy costs*, and *psychological costs*; which must also be devoid of any hidden dimensions that might crop up later. Consumers hate to be trapped in purchase situations where hidden or supplementary costs crop up later after they have committed to a financial contract (Fox, 2011). We therefore agree with Doherty *et al* (2004) that finding themselves in such a situation will automatically reduce customers' *perceived value* of the service, and may decrease their *satisfaction* or even lead to *dissatisfaction* and *service-switching*.

Customer satisfaction

Customer satisfaction has been conceptualized in the literature as the result of a comparison between what the customers *expect* and what they actually get from goods and services used (Oliver *et al*, 1997; Zeithaml *et al*, 2013; Koenig-Lewis and Palmer, 2014). It is "the extent of discrepancy between customers' expectations or desire and their perceptions" of the actual quality of the service received (Zeithaml *et al*, 1990, p. 18). If the service performance outcome matches the customer's expectation, the customer will be satisfied. If the outcome is higher than expected, the customer will be delighted. A satisfied or delighted customer is most likely to repurchase the goods or service, and to become a loyal customer (Seiders *et al*, 2005). However, if the outcome is lower than expected, the customer will be dissatisfied (Zeithaml *et al*, 2013; Kotler and Armstrong, 2014). Consequently, it is this disparity between customers' *service quality perception* and their *prior expectations* that determines their level of *satisfaction* or *dissatisfaction*, which in turn determines *customer loyalty* (Rust and Oliver, 2000; Chéron and Nornart, 2010). Notwithstanding, Kheng *et al* (2010) are of the opinion that *customer satisfaction* only plays the role of a mediator in the effect that *service quality* has on *consumer loyalty*.

Just as *customer satisfaction* and delight can lead to customer repurchase, retention, and loyalty; *customer dissatisfaction* can also lead to customer complaints, service discontinuance, service-switch, and higher customer-loss rates (Rust and Oliver, 2000; Zeelenberg and Pieters, 2004; Ueltschy *et al*, 2007). *Customer satisfaction* is therefore a key factor in the formation of customer's *expectations* for future purchases (Mittal and Kamakura, 2001). In the words of Chadha and Kapoor (2009, p. 25), "satisfaction heightens customer loyalty." Satisfied consumers may not only continue to use the services they are satisfied with, but may also extend good word-of-mouth to others about their good experiences (Mosahab *et al*, 2010), which will in turn lead to more purchases by other

consumers. Contrarily, dissatisfied consumers may not only discontinue using the service, but may also spread bad word-of-mouth to others about their bad experiences, thereby precipitating loss of potential customers for the service provider (Bougie *et al*, 2003). *Satisfaction* is therefore a psychological state that ensues when the emotion surrounding *prior expectations* of service quality is contrasted with the consumer's evaluative post-consumption experience with the service (Santos and Boote, 2003; Martin *et al*, 2008).

Service-usage continuance intention

Customer retention is one of the greatest challenges facing service firms today (Ahmad *et al*, 2010). A customer's *behavioral intention* toward retaining a service becomes manifest only after the customer has perceived the *quality* of the service over a period of time (Rahman *et al*, 2014). *Purchase intention* has been conceptualized as the probability that a consumer plans, or will plan, to buy a particular merchandise or service in the future (Schiffman and Kanuk, 2004; Chiu *et al*, 2014; Rahman *et al*, 2014). Similarly, *repurchase* or *continuance intention* is the probability that a customer who has bought and used an item or service plans to continue buying and using it. *Service continuance intention* is a vital behavioral construct often examined by service researchers (see Zeithaml *et al*, 1996; Soderlund and Ohman, 2003; and Zhang *et al*, 2011). It demonstrates a strong evidence of customers being influenced by their *service-quality perception* (Zeithaml *et al*, 1996; Cronin *et al*, 2000; Martin *et al*, 2008).

Research seems to suggest that customers' *service-usage continuance intentions* are associated with a service provider's ability to attain and retain *customer loyal* by ensuring *customer satisfaction*. Meeting the customers' *expectations* and *satisfying* their needs is therefore the central strategy in the firm's efforts to retain its customers, earn their loyalty, and gain competitive advantage (Cronin and Taylor, 1992; Parasuraman *et al*, 1988; Udo *et*

al, 2010; Hafeez and Muhammad, 2012). In their study that analysed the relationships between *service quality*, *consumer satisfaction*, and *purchase intention*, Cronin and Taylor (1992) found that *satisfaction* is a significant influencer of *customer repurchase intentions*, and that it actually has a stronger and more direct impact on *repurchase intention* than *service quality* does. Generally, *intention* is subsequent to *attitude* and a meaningful predictor of an actual *behavior* (Ajzen, 2005, p. 117). Based on this assertion, existing literature seems to suggest that *service-quality perception* is studied as an *attitude*. It is therefore our position that since *attitude* is not known to be an end in itself but an antecedent to *behavioral intention* (Davis, 1989; Ajzen, 2005; Ajzen and Fishbein, 2005), the final motive for studying consumers' *service-quality perception* should be to determine how their post-consumptive *attitudes* influence their *service continuance intention*.

RESEARCH DESIGN

Conceptual model development

Consequent upon our forgoing review, and in line with Udo *et al* (2010), we propose that if health insurance customers are significantly *satisfied* with their insurance providers' *service quality*, they will most likely continue using the providers' services. Contrarily, if they are significantly *dissatisfied*, they will most likely discontinue the relationship and switch to other insurance firms. We conceptualize this post-satisfaction behavioral intention as *service-usage continuance intention*, which may be positive (service renewal) or negative (service switch). However, we also argue that *customer satisfaction* is not based only on the insurance companies' service performance, but also on the interplays between the customers' *prior expectations*, *service-cost perceptions*, and *service-quality perceptions*. As a result, we have developed our research model and synthesized our hypotheses on the basis of our conjectures concerning the relationships between the five constructs (see Figure 1).

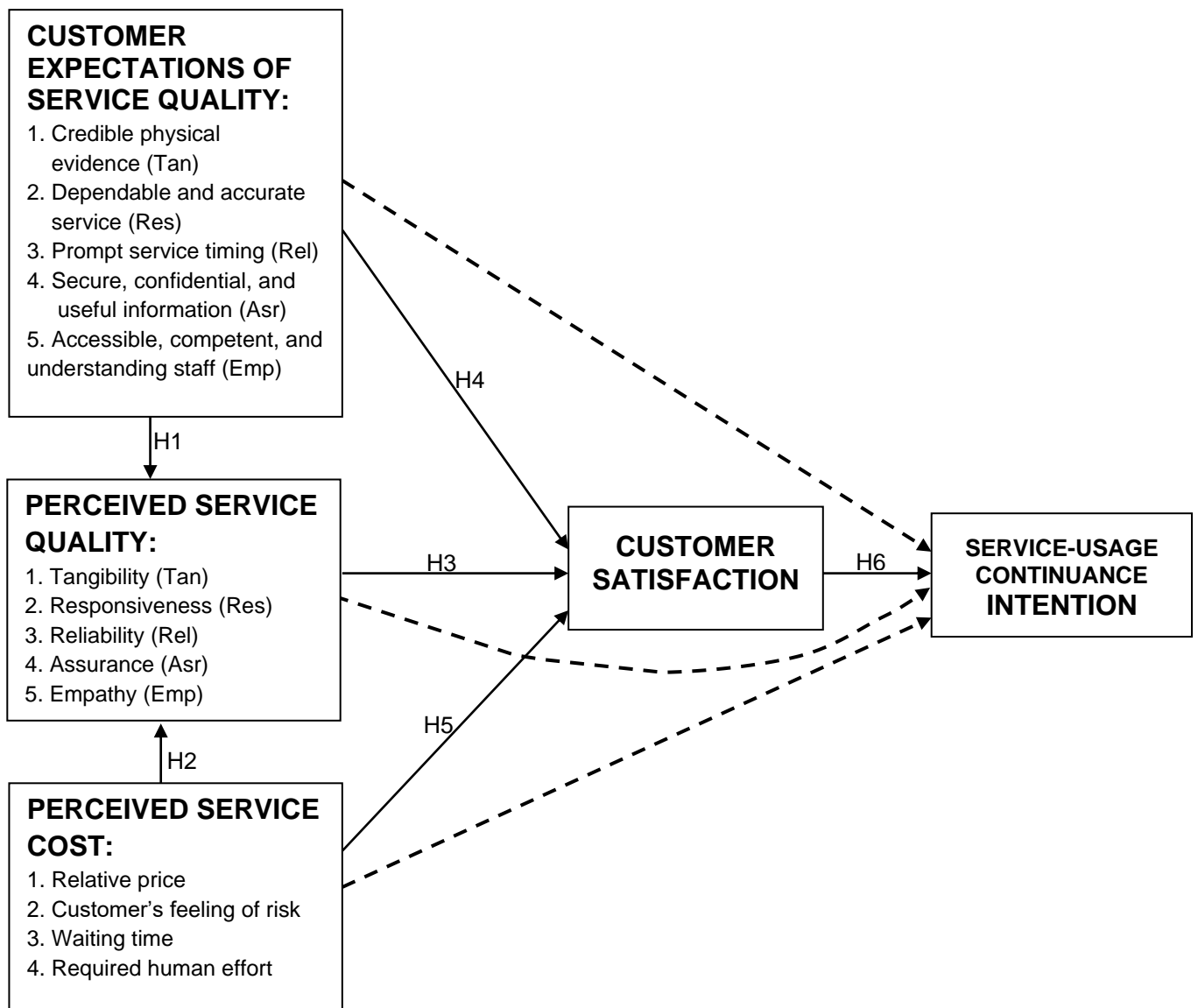


Figure 1: Conceptual model of the research

Hypotheses development

Effects of expectations on service-quality perception:

As has been suggested in the literature, service customers' *prior expectations* of service quality must be measured and directly compared with their *service-quality perceptions* in order to determine their *satisfaction* level (Cronin and Taylor, 1992; Ueltschy *et al*, 2007;

Martin *et al*, 2008). This then presupposes that the items in the scales that measure *service-quality expectations* and *perceptions* must be similar for a meaningful comparison. Zeithaml *et al* (2013) recommend that the best way to ensure equitable measurement is to use the same items in the extended SERVQUAL model (Parasuraman *et al*, 1991b) for obtaining responses on both customers' *expectations and service-quality perceptions*. As a result, we have adapted the five SERVQUAL variables to reflect insurance customers' *expectations and perceptions*, including:

- 1) *Tangibility* - the appearance and performance of the firm's physical and virtual facilities, tools, equipment, personnel, and communication materials relevant to its service delivery process.
- 2) *Reliability* - the firm's ability to serve appropriately and accurately; its dependability in creating trust and believability; and its employees' credibility in delivering consistent services.
- 3) *Responsiveness* - the ability and willingness of the firm's employees to respond promptly in taking orders, delivering services, and attending to customers' needs and complaints in a timely manners.
- 4) *Assurance* - the credible disposition of the firm's employees in maintaining customers' privacy and security of information as they communicate and deliver consistent services.
- 5) *Empathy* - the competence of the firm's employees in paying attention and showing understanding, compassion, courtesy, politeness, and genuine interest in attending to customers' needs and complaints, and satisfying them.

All these variables reflect customers' overall *expectation* that their health insurance providers would maintain good quality in each area. Based on the above understanding, we hypothesized that:

H1: *A customer's expectation of service quality has a significant effect on the customer's perception of the actual service quality.*

Effects of perceived service costs on service-quality perception:

Given that our *total-cost* concept comprises four dimensions, including *economic or monetary cost*, *time-cost*, *human-energy cost*, and *psychological cost* (Berry *et al*, 2002; McGuire *et al*, 2010; Sarkar *et al*, 2011); and given that insurance services research has shown that increases in relative premiums (*service costs*) impact the policy holders' decisions to switch insurance coverage firms (Christiansen *et al*, 2016, p. 270); it is therefore pertinent that *perceived service cost* would play a considerable role in determining and influencing a customer's *service-value perception*. We thus argue that, if the performance outcome of a service exceeds a customer's *expectation*, the customer's *service-quality perception* will be high only if the *perceived total cost* of that service does not exceed its *perceived total benefits*. In other words, the higher the *perceived total benefits* are over the *perceived total cost*, the higher the *service-quality perception* will be, and vice-versa. As a result, we hypothesized that:

H2: *Perceived total cost of service has a significant direct effect on customers' perception of service quality.*

Effects of perceived service quality on customer satisfaction:

Employing the same five SERVQUAL dimensions to measure both *service-quality expectations* and *perceptions*, it is possible to compare customers' post-consumptive evaluations with their prior *expectations*. Health insurance customers' *service-quality perceptions* would therefore reflect their experiential evaluations of the processes and resources with which their insurance providers aim to *satisfy* them in line with those five dimensions.

In addition, given that extant literature has confirmed that the gap between *service-quality expectation* and *perception* is what determines *customer satisfaction* (Cronin and Taylor, 1992; Zeithaml *et al*, 2013; Koenig-Lewis and Palmer, 2014), we posited that

customer satisfaction would be determined by the insurance firms' *service quality* as *perceived* by their customers. We therefore specified our third hypothesis thus:

H3: *Perceived service quality has a significant effect on customer satisfaction.*

Effects of service expectations and perceived cost on customer satisfaction:

Having also established from the literature that both *customer expectations* and *perceived service cost* contribute to customers' *evaluation of the service quality* received (Hasin *et al*, 2001; Spathis *et al*, 2004), and that the *perceived service quality* also determines *customer satisfaction* (Rust and Oliver, 2000; Chéron and Nornart, 2010), we also proffered the following two hypotheses to respectively explain the fourth and fifth relationships in our research model:

H4: *Customers' expectations of service quality have a significant effect on customer satisfaction.*

H5: *Perceived total service cost has a significant effect on customer satisfaction.*

Effects of customer satisfaction on service-usage continuance intention:

As already established in the previous sections, there is ample evidence in the literature that *customer satisfaction* leads to *service repurchase* or *continuance intention* (Cronin and Taylor, 1992; Udo *et al*, 2010; Zhang *et al*, 2011; Mohamed and Azizan, 2015). With our last hypothesis below, we aimed to re-examine this relationship in the health insurance service paradigm. Having hypothesized that *customer expectation*, *service-cost perception*, and *service-quality perception* would determine *customer satisfaction* (H3, H4, and H5), we also wanted to test whether or not *satisfied health insurance* customers would indicate a *behavioral intention* to retain their service providers, and whether or not *dissatisfied* customers would report an *intention* to switch to other providers. Hence, we hypothesized that:

H6: *Customer satisfaction (as determined by customer expectation, service-cost perception, and service-quality perception) has a significant effect on customers' service-usage continuance intention.*

Methodology and data collection

To examine our six hypotheses, we designed a research instrument based on the SERVQUAL model (Parasuraman *et al*, 1991b, p. 342), but modified it to suit the health insurance context and also to examine respondents' *total service-cost perception* and how it influenced both their *service-quality perception* and *service-continuance intention*. The first part of our questionnaire contained 5 demographic-profile questions that sought to identify only the respondent's *age-range*, *gender*, *area of residence*, *nationality*, and *health insurance provider*. Being anonymous, the questionnaire did not require their personal identification.

Twenty (20) questionnaire-items were used to measure *service-quality expectation* and *service-quality perception* respectively. The items measured each of the five (5) SERVQUAL dimensions on a 7-point Likert-style scale ranging from 'strongly disagree' (1) to 'strongly agree' (7) for each of the two constructs, in line with Brysland and Curry (2001). We measured *service-cost perception* with four (4) questions covering the *four dimensions of total cost* adapted from Lee and Cunningham (2001), Berry *et el.* (2002), Bielen and Demoulin (2007), McGuire *et al* (2010), Sarkar *et al* (2011), and Chiu *et al* (2014) as earlier explained. The four dimensions were also measured on the same 7-point scale indicated above.

Furthermore, three (3) scale-items were adapted into an abbreviated version of Fitzsimons' (2000) *satisfaction scale* on the same 7 points to measure the respondents' *satisfaction* with their insurance firms, including their *satisfaction with the general service*, *the claiming experience*, and *the hospital request approvals by the firms*. Lastly, our

questionnaire also included one (1) categorical-variable question adapted from Cronin *et al* (2000) that required our respondents to answer “yes or no” to having a *behavioral intention* toward continuing or discontinuing with their current health insurance providers. We piloted the 48-item questionnaire on 35 adults who maintain health insurance policies in Dubai. Our analysis confirmed the efficacy of the instrument, and we only made minor semantic changes pertinent to the research location.

The main data collection was from customers of 14 major health insurance companies across the UAE. Due to time and cost constraints, the *convenient intercept* (White and Nteli, 2004; Onyia and Tagg, 2011) and the *snowball* (Cueller *et al*, 2005) sampling methods were applied in recruiting the respondents. Twenty five (25) postgraduate students of the Australian University of Wollongong in Dubai were recruited and trained to administer the paper-based questionnaires in the 7 regions of the UAE, in line with Pikkarainen *et al* (2004) and Waite and Harrison (2004). A total of 820 questionnaires were successfully administered between September and December 2015. Participation in the study was purely voluntary and anonymous. A total of 640 completed questionnaires were received (78% initial response rate). However, after eliminating grossly incomplete responses with no demographic profiles at all, a total of 624 usable questionnaires (76% effective response rate) were analysed for this report.

DATA ANALYSIS AND DISCUSSION

Sample profile and model reliability tests

The respondents’ profile comprised slightly more men (51%) than women (49%). Majority of participants (68%) fell within 20 to 40 years age-range, which is representative of majority of the active work force in the country. Expectedly, 80% of the respondents reside in the top two cosmopolitan metropolises of Abu Dhabi and Dubai. Expatriates resident in the UAE

comprised 60% of the respondents, while UAE citizens made up the other 40%. This is in line with the fact that foreign nationals make up majority (88%) of the UAE population (CIA World Factbook, 2017).

Prior to data analysis, we tested the *composite reliability* of our model to ensure the internal consistency (inter-item reliabilities) and convergent validity of its latent constructs relative to our dataset. Using Factor Analysis and Cronbach's Alpha (α) tests in SPSS 23 Standard Multiple Regression, we examined the capability of the indicator-variables within each latent construct to reliably explain the construct, as well as its internal consistency. In line with Hair *et al* (2006), the decision-rule for a good scale-item's contribution toward explaining a construct is that its factor-loading score must be greater than 0.3. In addition, Onyia (2009, p. 262) suggests that a standardized Cronbach's alpha estimate (α) of 0.7 or above, together with a *total variance explained* (TVE) percentage above 50% (>0.5) indicates a good *convergent validity*. As shown in Table 1, the *composite reliability* tests for our analytical model indicated very good item reliability and internal consistency. This also means that strong *convergent validity* was equally achieved by all five constructs in the model.

(INSERT Table 1 HERE)

Analyses results and discussion

Having confirmed our model's goodness of fit, we computed One-Way ANOVA (Table 2) and Standard Multiple Regression (tables 3 and 4) to ascertain the relationships among our independent predictor-constructs (CESQ, PSC, and PSQ) as well as their effects on *customer satisfaction* (CuSAT). In addition, we employed Logistic Regression (Table 5) to analyse the

predictive ability of CuSAT to determine the respondents' *service-usage continuance intention* (SuCI). The results in Table 2 show that the three predictor-constructs (CESQ, PSC, and PSQ) were significantly associated with each other and with our initial dependent variable (*customer satisfaction*), especially as none of the indicator-variables showed any negative association. Moreover, the overall predictive effects (F-value) of the three constructs on *customer satisfaction* were also significant (Sig. = 0.000). The results in the lower section of Table 2 also indicate that *customer satisfaction* was significantly associated with *service-usage continuance intention*.

(INSERT Table 2 HERE)

Hypotheses test results and discussion

In tables 3 and 4, we present the results of our Standard Multiple Regression tests, used in verifying hypotheses **H1** and **H2**, concerning the abilities of *customer service-quality expectation* (CESQ) and *service-cost perception* (PSC) to respectively influence *service-quality perception* (PSQ). The regression results also indicated the abilities of these three constructs to predict *customer satisfaction* (CuSAT), being **H3**, **H4**, and **H5** respectively. This method of hypothesis testing has been applied in line with Meuter *et al* (2005), Pallant (2007), and Harrison *et al* (2014) because our predictor-variables (CESQ, PSC, and PSQ) and initial dependent variable (CuSAT) were all continuous variables.

Table 5 shows the results of our *Logistic Regression* that tested our sixth hypothesis (**H6**) - the ability of *customer satisfaction* (CuSAT) to predict our respondents' *service-usage continuance intention* (SuCI), which is the final categorical dependent variable in the model. Pallant (2007, p. 169) is of the opinion that “*Logistic Regression* allows you to assess how

well your set of predictor-variables predicts or explains your categorical dependent variable.” We applied *logistic regression* estimates for **H6** validation since our SuCI construct is a categorical variable.

(INSERT Table 3 HERE)

As shown in tables 3 and 4, the standardized *Pearson Correlation Coefficients* (β) in our SMR tests were all above 0.3 but not more than 0.7, which, according to Pallant (2007), indicates a strong relationship between the independent variables, without *multicollinearity*. Interpreting the results in Table 3 in relation to our first hypothesis (**H1**), it was clear that the five CESQ indicator-variables performed well with $\beta = 0.5 - 0.7$; SS ratio to $DF = 5.4$, and sig. = 0.000. Consequently, our first hypothesis was aptly supported by the results, which confirms that customers’ *service-quality expectation* has a significant effect on their actual *service-quality perception*. For our second hypothesis (**H2**), the PSC regression results ($\beta = 0.3 - 0.5$, SS ratio to $DF = 4.6$, and sig. = 0.000) also showed a strong and significant influence of the respondents’ perception of *total service cost* on their *service-quality perception*, and therefore upheld our second hypothesis.

(INSERT Table 4 HERE)

In Table 4, our third hypothesis (**H3**) was equally well supported by the regression results for PSQ, in which $\beta = 0.5 - 0.6$, SS ratio to $DF = 4.7$, and sig. = 0.000. This strongly validated our third hypothesis that *perceived service quality* has a significant effect on *customer*

satisfaction. Likewise, with $\beta = 0.5 - 0.7$, SS ratio to $df = 4.6$, and $sig. = 0.000$, our standardized regression estimates for CESQ also supported our fourth hypothesis (**H4**) that customers' *service-quality expectations* have a significant impact on their *satisfaction* or *dissatisfaction* with the service. A strong validation was therefore achieved for our fifth hypothesis given that the PSC regression result produced $\beta = 0.4 - 0.5$, SS ratio to $DF = 3.0$, and $sig. = 0.000$, and thus confirmed our **H5** that *perceived service cost* has a significant effect on *customer satisfaction* in the health insurance paradigm.

(INSERT Table 5 HERE)

The logistic regression test results (Table 5) provided an additional goodness-of-fit affirmation for our study model given that the X^2 significance level in the Hosmer and Lemeshow (H-L) result was greater than 0.05. The H-L test, accredited as “the most reliable test of model fit in SPSS,” and the Wald test, which estimates “the power of continuous independent variables to predict a categorical dependent variable,” were both applied in testing our **H6**, in line with Pallant (2007, p. 174) and Harrison *et al* (2014, p. 673). The R^2 score indicated that *customer satisfaction* was responsible for approximately 50% variability in our respondents' *Service-usage Continuance Intention*. In addition, all the β values of the 17 indicator-variables were equal to (or greater than) the required minimum of 0.3 when approximated to one decimal. In the Wald test result, all the variables were also significant (less than 0.05). This indicated that all the 17 variables made significant contributions to the ability of the model to predict *service-usage continuance intention*. All of this meant that our **H6** was fully supported, thereby affirming our last hypothesis that *customer satisfaction* (as

defined by *customer expectation*, *service-cost perception*, and *service-quality perception*) does significantly affect *service-usage continuance intention*.

CONCLUSIONS

Based on our overall results, we can conclude that our study model performed well in explaining the hypothesized causal relationships among all the independent and dependent variables - including the ability of *customer expectation*, *service-cost perception*, and *Service-quality perception* to determine *customer satisfaction*; and also the ability of *customer satisfaction* to predict *service-usage continuance intention*.

Theoretical and managerial implications

We propose that *perceived service-cost*, as validated in our study, should be taken more seriously by service marketers as one of the vital determinants of customers' *perception of service quality*, and therefore a very important predictor of *customer satisfaction*. We also hope that our findings will motivate subsequent research toward a greater understanding of the importance and effects of *perceived total-cost* in service-quality investigations. In summary, the *services marketing* implications of the constructs validated in this study are that:

- 1) Customers' *expectations* of service quality and, especially, their *perception of the total cost* associated with the service will significantly determine how they *perceive the quality* of that service.
- 2) Customers' *service-quality perception* (as determined by their *service expectations* and *total-cost perceptions*) will substantially determine their *level of satisfaction* with the service.
- 3) Customers' *satisfaction* (as defined by their *expectations*, *total-cost perception*, and *service-quality perception*) will in turn influence their *behavioral intension* toward continuing or discontinuing with their current service providers.

Recommendations

Based on the above inferences from our findings, we conclude this study by recommending that health insurance and healthcare service marketers could:

- 1) Determine how *satisfied* their customers or patients are by proactively studying and keeping track of their *expectations*, *cost perceptions*, and *service quality perceptions*.
- 2) Determine the *true quality of their services* by proactively studying their customers' *service expectations* and *cost perceptions*, and contrasting them with the customers' *satisfaction* ratings.
- 3) Predict the potential *intensions* of their customers to *retain their services* by continually monitoring, tracking, and documenting their *customers' expectations*, *cost sensitivity*, *service-quality perceptions*, and *satisfaction levels*; and then comparing the values with those of their competitors. This will enable them to predict whether a few or many of their customers might switch or remain with them; and also to make relevant changes toward increasing customer retention.

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Effects of Perceived Cost, Service Quality, and Customer Satisfaction on Health Insurance Service Continuance

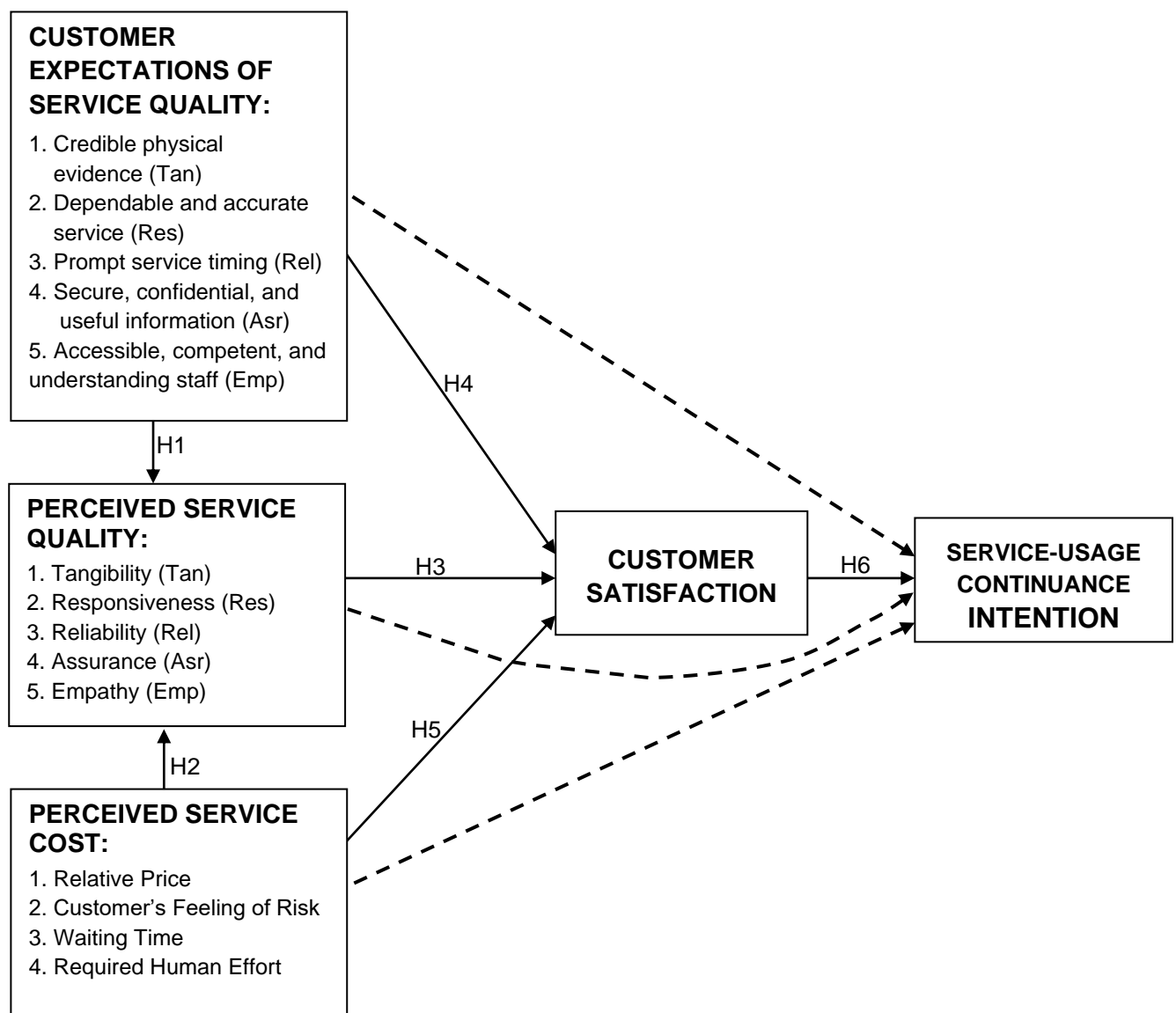


Figure 1: Conceptual model of the research

Effects of Perceived Cost, Service Quality, and Customer Satisfaction on Health Insurance Service Continuance

Table 1: Results of composite reliability (convergent validity and internal consistency) tests

Construct	Item *	Composite Reliability		Total Variance Explained (TVE)
		Item Reliability (Factor loading)	Convergent Validity (Cronbach's Alpha - α)	
Recommended value	Variable	> 0.30	≥ 0.70	> 0.50
Customer Expectation of Service Quality (CESQ)	CESQ 1	0.72	0.97	0.76
	CESQ 2	0.76		
	CESQ 3	0.77		
	CESQ 4	0.76		
	CESQ 5	0.78		
Perceived Service Cost (PSC)	PSC 1	0.43	0.70	0.51
	PSC 2	0.78		
	PSC 3	0.83		
	PSC 4	0.76		
Perceived Service Quality (PSQ)	PSQ 1	0.68	0.94	0.68
	PSQ 2	0.70		
	PSQ 3	0.64		
	PSQ 4	0.73		
	PSQ 5	0.72		
Customer Satisfaction (CuSAT)	CuSAT 1	0.88	0.73	0.77
	CuSAT 2	0.89		
	CuSAT 3	0.87		
Service-usage Continuance Intention (SuCI)	SuCI	0.87	0.74	0.79

***Notes:** (1) CESQ1 = Expectation of Tangibility; CESQ2 = Expectation of Reliability; CESQ3 = Expectation of Responsiveness; CESQ4 = Expectation of Assurance; and CESQ5 = Expectation of Empathy. (2) PSC1 = Perceived Cost - Price; PSC2 = Perceived Cost – Feeling of Risk; PSC3 = Perceived Cost – Waiting Time; and PSC4 = Perceived Cost – Human Effort. (3) PSQ1 = Perceived Tangibility; PSQ2 = Perceived Reliability; PSQ3 = Perceived Responsiveness; PSQ4 = Perceived Assurance; and PSQ5 = Perceived Empathy. (4) CuSAT1 = Satisfaction with Provider's Health Insurance Services in General; CuSAT2 = Satisfaction with Claims Processing; CuSAT3 = Satisfaction with Hospital Requests Approval by Insurance Service Provider. (5) SuCI = Intention to Continue Using Service Provider (Yes or No).

Table 2: Results of one-way ANOVA analyses of the inter-construct causal relationships

The effects of <i>Customer Expectation, Perceived Service Cost, and Perceived Service Quality</i> on <i>Customer Satisfaction (CuSAT)</i>					
Construct	Item	Mean	F-Value	Sig.	SE
Customer Expectation of Service Quality (CESQ)	CESQ 1	5.56	8.40	0.000	0.06
	CESQ 2	5.64	-	-	0.05
	CESQ 3	5.57	-	-	0.05
	CESQ 4	5.74	-	-	0.05
	CESQ 5	5.72	-	-	0.05
Perceived Service Cost (PSC)	PSC 1	4.59	4.89	0.000	0.06
	PSC 2	4.62	-	-	0.06
	PSC 3	4.72	-	-	0.06
	PSC 4	4.49	-	-	0.06
Perceived Service Quality (PSQ)	PSQ 1	4.58	12.22	0.000	0.06
	PSQ 2	4.42	-	-	0.06
	PSQ 3	4.39	-	-	0.06
	PSQ 4	4.53	-	-	0.06
	PSQ 5	4.53	-	-	0.06
The effect of <i>Customer Satisfaction</i> on <i>Service-usage Continuance Intention (SuCI)</i>					
Construct	Item	Mean	F-Value	Sig.	SE
Customer Satisfaction (CuSAT)	CuSAT 1	4.79	39.85	0.000	0.06
	CuSAT 2	4.62	-	-	0.06
	CuSAT 3	4.70	-	-	0.06

Table 3: Results of H1 & H2 tests from standard multiple regression

Tests of the hypothesized relationships of <i>Customer Expectation of Service Quality</i> and <i>Perceived Service Cost</i> with <i>Perceived Service Quality</i> respectively					
Construct	Item	Standardized Correlation Coefficient (β)	Sum of squares	df	Sig.
H1: Customer Expectation of Service Quality (CESQ)	CESQ 1	0.525	27.064	5	0.000
	CESQ 2	0.652	-	-	-
	CESQ 3	0.650	-	-	-
	CESQ 4	0.661	-	-	-
	CESQ 5	0.704	-	-	-
H2: Perceived Service Cost (PSC)	PSC 1	0.352	18.325	4	0.000
	PSC 2	0.327	-	-	-
	PSC 3	0.431	-	-	-
	PSC 4	0.530	-	-	-

Table 4: Results of H3, H4, & H5 tests from standard multiple regression

Tests of the hypothesized relationships of <i>Perceived Service Quality</i>, <i>Customer Expectation of Service Quality</i>, and <i>Perceived Service Cost</i> with <i>Customer Satisfaction</i>					
Construct	Item	Standardized Correlation Coefficient (β)	Sum of Squares (SS)	df	Sig.
H3: Perceived Service Quality (PSQ)	PSQ 1	0.491	23.269	5	0.000
	PSQ 2	0.543	-	-	-
	PSQ 3	0.520	-	-	-
	PSQ 4	0.601	-	-	-
	PSQ 5	0.575	-	-	-
H4: Customer Expectation of Service Quality (CESQ)	CESQ 1	0.543	18.482	4	0.000
	CESQ 2	0.661	-	-	-
	CESQ 3	0.650	-	-	-
	CESQ 4	0.665	-	-	-
	CESQ 5	0.701	-	-	-
H5: Perceived Service Cost (PSC)	PSC 1	0.396	14.883	5	0.000
	PSC 2	0.470	-	-	-
	PSC 3	0.432	-	-	-
	PSC 4	0.531	-	-	-

Table 5: Result of H6 test from logistic regression (including all the causal paths in the model)

Tests of the ability of all the predictor-variables in the adjusted model (the broken-arrow paths) to collectively predict <i>Service-usage Continuance Intention (SuCI)</i>									
Predictor-variables in the model	β Value (H6)	S.E.	Wald Test			R ²	Hosmer-Lemeshow		
			Value	df	Sig.		X ²	df	Sig.
PSQ1	0.298	0.127	3.515	1	0.010	0.492	27.852	8	0.128
PSQ2	0.316	0.082	6.556	1	0.005				
PSQ3	0.296	0.155	3.261	1	0.014				
PSQ4	0.303	0.096	6.193	1	0.009				
PSQ5	0.331	0.059	9.016	1	0.001				
CESQ1	0.312	0.110	6.521	1	0.007				
CESQ2	0.297	0.155	3.257	1	0.015				
CESQ3	0.322	0.079	8.181	1	0.003				
CESQ4	0.351	0.061	7.056	1	0.006				
CESQ5	0.299	0.151	3.685	1	0.013				
PSC1	0.447	0.041	9.385	1	0.006				
PSC2	0.356	0.095	6.451	1	0.011				
PSC3	0.295	0.156	3.899	1	0.019				
PSC4	0.314	0.116	7.616	1	0.010				
CuSAT1	0.332	0.114	8.550	1	0.003				
CuSAT2	0.295	0.111	6.109	1	0.013				
CuSAT3	0.297	0.104	6.451	1	0.010				